| Agenda Item 1.5 | Unmanned aircraft systems (UAS) |
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**EACO:**

- Technical, regulatory and operational requirements for the operation of UAS using FSS Bands: ***Support studies that will determine technical, regulatory and operational requirements for the operation of UAS using FSS Bands taking into account the safety aspects of radionavigation and other safety services.***
- Sharing and compatibility of the use of UAS in FSS bands with services already having allocations in those bands: ***Support studies that will ensure sharing and compatibility of the use of UAS in FSS bands with services.***

**ECCAS:**

Favorable à cette utilisation des bandes visées du point de l'ordre du jour.

**SADC:**

SADC could support the use of FSS frequency bands for CNPC links for UAS provided that the current and future use of FSS systems are protected, and only if studies demonstrate that the requirements of aviation authorities are also satisfied.

**SUDAN**:

Review the current studies with focus on the frequency bands which allocated to fixed satellite service and not subject to Appendices 30, 30A and 30B, and protect the existing services.

**NIGERIA**:

No change. However, Nigeria will support the proposal if the result of the studies satisfy ICAO safety requirements in terms of

- system availability
- coordination status/methods and
- ensuring protection of existing services

**ALGERIA**:
La CMR-12 a fait bénéficier les systèmes d'aéronef sans pilote (UAS) d'attributions additionnelles. L'Administration algérienne souligne la nécessité de protéger les services existants dans les bandes de fréquences en question en déterminant les dispositions réglementaires, techniques et opérationnelles nécessaires à l'utilisation sûre des bandes de fréquences attribuées du service fixe par satellite par les UAS.
Plus particulièrement, Elle est d'avisque l'utilisation des liaisons du SFS pour la liaison CNPC entre les satellites géostationnaires et les systèmes UAS dans les espaces aériens non réservés ne doit pas imposer des contraintes supplémentaires, nigêner le développement du service fixe par satellite et les autres services primaires.

**ICAO:**
In order to support the use of FSS systems for UAS CNPC links, the technical and regulatory actions identified by studies under Resolution 153 (WRC-12) must satisfy the following conditions:
1. That the technical and regulatory actions should be limited to the case of UAS using satellites, as studied, and not set a precedent that puts other aeronautical safety services at risk.
2. That all frequency bands which carry aeronautical safety communications need to be clearly identified in the Radio Regulations.
3. That the assignments and use of the relevant frequency bands have to be consistent with article 4.10 of the Radio Regulations which recognizes that safety services require special measures to ensure their freedom from harmful interference.
4. Knowledge that any assignment operating in those frequency bands has been successfully coordinated under article 9 of the radio regulations (e.g. any caveats placed on that assignment have been addressed and resolved).
5. That all assignments used by satellite systems for the provision of UAS CNPC links are registered with favorable findings in the master international frequency register.
6. That interference to systems is reported in a transparent manner and addressed in the appropriate timescale.
7. That realistic worst case conditions with the inclusion of a safety margin can be applied during compatibility studies.
8. That any operational considerations for UAS will be handled in ICAO and not in the ITU.

**Inmarsat:**
Inmarsat supports studies to develop regulatory provisions to enable the operation of UAS in FSS networks, subject to compatibility with other FSS applications.

**<u>AFRICAN PRELIMINARY VIEW:</u>**
- To support continuation of ongoing studies, and the position to be taken after the outcome of studies.

| Agenda Item 1.15 | Spectrum demands for on-board stations in maritime mobile service |
|---|---|

**EACO:**
Support ongoing studies with emphasis on efficient usage of the existing frequencies for on-board communications, and the protection of existing services.

**ECCAS:**
soutenir toutes les actions visant à améliorer et développer les stations de communication à bord notamment l'identification de canaux additionnels en ondes métriques dans les bandes attribuées au service mobile maritime.

**SADC**:
SADC could support additional UHF channels for on-board communications provided that existing services are protected (in particular coastal countries could be affected although on-board communications could also be used on dams and rivers).

**SUDAN:**

1. to review footnote no.5.287 for the use of the band 457.525,457.550, 457.575,467.525,467.550.467.575 MHz, 457.5375, 457.5625, 467.5375 and 467.5625 MHz
2. Sudan is reviewing the current studies

**NIGERIA**:
Nigeria does not support new allocation as the band is already identified for IMT.

**ALGERIA**:
Les études relatives à ce point sont toujours en cours. Il est à souligner que la satisfaction de ce nouveau besoin en spectre doit s'appuyer sur évaluation précise de l'encombre mentou de l'insuffisance des canaux actuellement autorisés pour les stations de communication de bord du service mobile maritime conformément au 5.287.
L'Administration algérienne préfère attendre la finalisation des études en cours.

**<u>AFRICAN PRELIMINARY VIEW:</u>**

- Support ongoing studies, and final decision to be taken after the availability of the results of the studies.

| Agenda Item 1.16 | Automatic Identification Systems (AIS) |
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**EACO:**

- Modification to RR including possible spectrum allocations, to enable new AIS terrestrial and satellite applications: ***Support ongoing studies on possible modification to RR including possible spectrum allocations, to enable new AIS terrestrial and satellite applications***
- Additional or new applications for Maritime within existing service allocations: ***Support studies on the identification of additional or new applications for Maritime within existing service allocations***
- Potential regulatory actions to accommodate emerging maritime radiocommunication requirements: ***Supports studies on potential regulatory actions to accommodate emerging maritime radiocommunication requirements***

**ECCAS:**

Compte tenu de ceque les fréquences additionnelles devraient satisfaire les nouveaux besoins d'exploitation des AIS pour les communications de terre et par satellite, nous pouvons être favorables à cette nouvelle attribution

**SADC:**

- SADC could support the identification of additional spectrum for AIS provided that existing services are protected.
- SADC could also support additional or new applications for maritime radiocommunications within existing maritime mobile and mobile-satellite service allocations considering the potential benefits this could bring to the maritime industry, provided that existing services are protected.

**SUDAN:**

1. Sudan is support the improvement of the AIS system.
2. Reviewing ongoing ITU-R studies.

**NIGERIA**:

In view of the importance of AIS in maritime operation for tracking and monitoring of vessels, also considering that THE TWO CHANNELS ALREADY in use are getting congested, Nigeria supports spectrum allocation for possible new AIS technologies. Nigeria supports Method A, i.e. splitting of existing Automatic Identification System (AIS) channels to 4 channels. Two (2) of the channels are to be dedicated to Application Specific Messages (ASM) with effect from 1st January 2019.

**ICAO:**
To ensure that any change to the regulatory provisions and spectrum allocations resulting from this agenda item does not adversely impact on the capability of search and rescue aircraft to effectively communicate with vessels during disaster relief operations.

**ALGERIA**:
L'Administration algérienne est favorable pour la finalisation des études engagées au niveau de l'UIT-R relatives aux dispositions réglementaires de manière à satisfaire les besoins des systèmes AIS et améliorer la sécurité maritime sans pour autant porter préjudice ou imposer des contraintes supplémentaires aux systèmes des services exploitant ses canaux .

**AFRICAN PRELIMINARY VIEW:**

- Africa recognize the importance of AIS, and support any allocation improving AIS, however specific bands to identified after the availability of results of ongoing studies.

| Agenda Item 1.17 | Wireless Avionics Intra-Communications (WAIC) |
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**EACO**:

- Possible regulatory actions, including appropriate aeronautical allocations, to support the implementation of WAIC systems: ***Supports studies on Possible regulatory actions, including appropriate aeronautical allocations, to support the implementation of WAIC systems***
- Spectrum requirements needed to support WAIC systems. ***Supports studies on Spectrum requirements needed to support WAIC systems.***
- Protection requirements for systems operating in accordance with existing allocations: ***Supports studies on protection requirements for systems operating in accordance with existing allocations.***

**ECCAS**:
soutient l'attribution d'une bande de fréquences appropriée pour les Laïcs, sous réserve des résultats des études de partage

**SADC**:

Whereas SADC may support the identification of bands and associated regulator positions pertaining to the implementation of WAIC, protection of existing systems and services must be ensured, also when new bands are identified.

**SUDAN**:
Sudan is reviewing the current studies and working wireless avionics intra-communications (WAIC) with the aeronautical bands.

**GHANA**:
Support any additional aeronautical mobile (route) service allocation required to facilitate the implementation of WAIC, provided technical studies show that WAIC systems will not cause harmful interference to existing or planned aeronautical systems in the aeronautical bands.

**NIGERIA**:
We recognize the importance of Wireless Avionics Intra-communication (WAIC) and support the proposal to use 4200-4400 MHz on the condition that confirmed study reports meet spectrum and regulatory requirements. WAIC systems utilize radio communications between two or more stations on-board a single aircraft supporting the safe operation of the aircraft and its systems.

**ALGERIA**:
Les bandes de fréquences concernées par les études de l'UIT-R sont : 4200-4400 MHz ; 5350-5470 MHz ; 13.25-13.4 GHz et 15.4-15.7 GHz. Ces études ont notamment montré que le partage pour rait être concluant dans la bande 4200 – 4400 MHz. L'Administration algérienne considère que compte tenu du fait que les études de partage et de compatibilité ne sont pas arrivées à terme et de l'exploitation actuelle des bandes en question par les services fixe par satellite et de radiodiffusion, ilserait judicieux de suivre attentivement les études avant d'arrêteras position finale.

**ICAO**:
To support any necessary additional aeronautical mobile (route) service allocation required to facilitate the implementation of WAIC, provided technical studies show that WAIC systems will not cause harmful interference to existing or planned aeronautical systems in the aeronautical bands.

**Boeing**:
Fully support any additional aeronautical mobile (route) service allocation required to facilitate the implementation of WAIC, provided technical studies show that WAIC systems will not cause harmful interference to existing or planned aeronautical systems in the aeronautical bands. Boeing belives WAIC would not compromise safety but enhance it.
• WAIC communication is considered an application of a safety service as defined in RR 1.59;
• WAIC is an application of the Aeronautical Mobile (Route) Service (AM(R)S);
• ITU-R WP-5B has determined that the total spectrum requirement for WAIC is 145 MHz;
• Support a primary allocation to the AM(R)S in the frequency band 4 200 – 4 400 MHz, limited to the use by WAIC systems.

**AFRICAN PRELIMINARY VIEW**:
- Views WAIC communication as an application of a safety service of the Aeronautical Mobile (Route) Service (AM(R)S).
- To support the identification of 145 MHz of frequency spectrum under the AM(R)S, for the harmonized usage of WAIC.
- To support a primary allocation to the AM(R)S in the frequency band 4 200 – 4 400 MHz, limited to the use by WAIC-systems.
- To support further sharing and compatibility studies on other frequency bands as necessary.

| Agenda Item 1.18 | Automotive applications on the 77.5 – 78 GHz |
|---|---|

**EACO:**
Supports the primary allocation and protection of incumbent services.

**ECCAS:**
Conseilleune attribution en secondaire à ce service.

**SADC:**
SADC supports the allocation to radiolocation service on a primary basis in this band to enable automotive short-range high-resolution radar operations and considering the benefits these systems could bring to road safety.

**SUDAN:**
1. Sudan supports a primary allocation to the radiolocation service for automotive applications in the 77.5-78 GHz band .
2. Reviewing current sharing studies and regulatory provisions in the 77.5-78 GHz band
3. Also reviewing the compatibility studies with the neighboring bands 76-77.5 GHz and 78-81 GHz.

**NIGERIA:**
Two methods to satisfy AI 1.18. Methods A and B. Nigeria supports Method B because it has an added advantage for future developments of short range high resolution radar to automotive applications while taking into account the need to protect existing services in the band

**ALGERIA**:
L'Administration Algérienne est favorable à une attribution primaire au service de radiolocalisation dans la bande 77,5-78 GHz, limitée aux radars des véhicules, dans le casoù les études confirment la possibilité de coexistence avec les services existants. L'harmonisation des fréquences pour ces applications à l'échelle mondiale constituera un avantage en termes d'efficacité d'utilisation du spectre.

**<u>AFRICAN PRELIMINARY VIEW;</u>**
- To support the primary allocation of band 77.5-78GHz to automotive applications